

**FINAL STATEMENT OF REASONS
FOR
PROPOSED BUILDING STANDARDS
OF THE
CALIFORNIA BUILDING STANDARDS COMMISSION (CBSC)**

**REGARDING ADOPTION OF AMENDMENTS TO THE 2007 CALIFORNIA BUILDING
STANDARDS CODE, TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR), PARTS 2, 3,
4, 5 and 6 in TITLE 24, CCR, PART 11, CALIFORNIA GREEN BUILDING STANDARDS CODE**

The Administrative Procedure Act requires that every agency shall maintain a file of each rulemaking that shall be deemed to be the record for that rulemaking proceeding. The rulemaking file shall include a final statement of reasons. The Final Statement of Reasons shall be available to the public upon request when rulemaking action is being undertaken. The following are the reasons for proposing this particular rulemaking action:

UPDATES TO THE INITIAL STATEMENT OF REASONS

CBSC finds that no revisions have been made which would warrant a change to the initial statement of reasons.

MANDATE ON LOCAL AGENCIES OR SCHOOL DISTRICTS

Because this initial version of the green building standards proposed is primarily voluntary in nature, CBSC has determined that the proposed regulatory action would not impose a mandate on local agencies or school districts. Thus, the mandate does not require reimbursement pursuant to Part 7 (commencing with section 17500) of Division 4, Government Code.

OBJECTIONS OR RECOMMENDATIONS MADE REGARDING THE PROPOSED REGULATION(S).

COMMENTER: William Schock, CALBO, no section number:

Mr. Schock comments that: 1) hyperlinks to private websites should not be included in the body of the code, 2) when state agencies adopt the same sections the language should be correlated to avoid inconsistencies and duplication, and 3) language used should be enforceable language.

RESPONSE: While the comments are not directed to a specific code section proposed, CBSC believes that the comments have merit and has worked with the other state agencies proposing adoption of the CGBC to coordinate language, provide more generic informational references instead of specific web pages and ensure that proposed text is written in an enforceable tone. CBSC will continue this effort in future development of this code.

COMMENTERS: Scott Harriman, Senior Planner, and Robert Woods, Chief Building Inspector, City of Walnut Creek, no section number, (Criteria 1, 2, 6, and 7):

The commenters suggest that the proposed regulations overlap with the energy code and clean water provisions. The standards already exist (for example, Green Point Rated and LEED), and they suggest adoption of one of those systems. They suggest that 1) enforcement should not be difficult compared to energy standards that are already enforced, 2) use of an affidavit from the designer or consultant to certify compliance, 3) use of third party inspectors, although they do not favor this idea as burdensome on the owner and builder, and 4) non-mandatory compliance options need to be clarified, since they do not seem to serve any purpose. Further, they feel that these standards will impose additional staff time on the city for plan review and inspection.

RESPONSE: CBSC observes that the comments lack specificity in identifying the adoption, amendment, or repeal of regulations that are being proposed and do not make specific suggestions to specific text. CBSC notes that points-based systems such as Green Point Rated and LEED are not national standards, and cannot be adopted as such. No code changes have been proposed to CBSC's rulemaking package as a result of this comment. CBSC will take the concerns expressed in these comments to the next rulemaking cycle.

COMMENTERS: Dan Geiger and Andrea Traber, United States Green Building Council and Paul Poirier, AIA, LEED AP, Poirier + David Architects, et al, on Section 101.2:

Change Item #5 "Environmental air quality" to "Indoor air quality". Chapter 8 refers to Indoor Air Quality (IAQ), so changing the language here clarifies its applicability, vis a vis outdoor air quality.

RESPONSE: CBSC is not accepting the commenters' proposed change, because limiting standards to indoor air quality may ignore outdoor air quality impacts, such as those for ozone-depleting chemicals, environmental tobacco smoke, and VOCs emitted by exterior coatings. Also, other building standards

affecting outdoor air quality may be identified in future development of this code, as coordinated with the California Air Resources Board (ARB).

COMMENTERS: Dan Geiger and Andrea Traber, United States Green Building Council and Paul Poirier, AIA, LEED AP, Poirier + David Architects, et al, on **Section 101.3:**

Add the phrase "as noted further in Sec 101.3.1" to the end of the section, because this standard should apply to all buildings in the State of California. (Criteria 1 and 6)

RESPONSE: CBSC is not accepting the commenters' proposed change, because the addition of the phrase "as noted further in Sec 101.3.1" does not follow code format or correspond to Chapters 1 in other parts of Title 24. Its addition is unnecessary since §101.3.1 is clearly a subsection of 101.3.

COMMENTERS: Dan Geiger and Andrea Traber, United States Green Building Council; Paul Poirier, AIA, LEED AP, Poirier + David Architects, et al; and William Schock, California Building Officials (CALBO), on **Section 101.7:**

Delete the last sentence "However, in no case shall the [local] amendments, additions or deletions to this code be effective any sooner than the effective date of this code". Based on criteria 6 and 3, this phrase is vague, because the standards in the code are largely voluntary.

RESPONSE: CBSC is not accepting the commenters' proposed change, because the subject phrase corresponds to Building Standards Law, State Housing Law, and Chapters 1 in other parts of Title 24. While the commenter notes that the current proposal is for voluntary standards and thus effective date is a moot point, local jurisdictions may wish to adopt some of them as mandatory. Also, CBSC will be proposing mandatory provisions for future editions of the code, when effective date may have more impact.

COMMENTERS: Dan Geiger and Andrea Traber, United States Green Building Council and Paul Poirier, AIA, LEED AP, Poirier + David Architects, et al, on **Section 101.7.1:**

In Item #1 of this section "... findings . . . based upon climatic, topographical, or geological conditions" - clarify if "climatic" refers to local climatic conditions or global climatic considerations. Meaning of "climatic" considerations is unclear. For example, a local authority may desire to adopt more carbon emission-related stringent codes out of concern for global climate change, vs. local climatic conditions. (Criterion 6)

RESPONSE: CBSC is not accepting the comment, because [Section 101.8 of the California Building Code contains identical language to what is proposed for this section, and](#) the terms ~~are income from~~ Building Standards Law, ~~and~~ CBSC has no authority to determine how a jurisdiction makes its local findings.

COMMENTER: William Schock, CALBO, on **Section 102.3:**

Add, in the second sentence, the phrase after "special documentation . . . as specified in this code or as required by the enforcing agency."

RESPONSE: CBSC is not accepting the commenter's proposed change, because it is not needed. However, in light of the comment CBSC has proposed withdrawing the entire sentence which the commenter proposed amending as extraneous to the meaning of the paragraph. Further development of documentation and verification requirements is anticipated in the next rulemaking cycle, when CBSC will propose mandatory standards with input from stakeholders. The withdrawal was submitted in a 15-day comment period, and CBSC received no comments on the revision.

COMMENTER: William Schock, CALBO, on **Section 103.1:**

Change the header for Item 1 of CBSC's scope of application from "All occupancies" to "State buildings for all occupancies." (Criteria 1 through 7)

RESPONSE: CBSC is not accepting the commenter's proposed change, because Building Standards Law states in Health and Safety Code §18938(b) that model codes, "as referenced in the California Building Standards Code, shall apply to all occupancies throughout the state and shall become effective a minimum of 180 days after publication by the California Building Standards Commission . . .". [Part 11, while not a model code, will amend the 2007 California Building Standards Code with primarily voluntary green building standards available for use by designers and local jurisdictions statewide for those occupancies not regulated by another state agency.](#)

COMMENTERS: Dan Geiger and Andrea Traber, United States Green Building Council and Paul Poirier, AIA, LEED AP, Poirier + David Architects, et al, on **Section 202, Definitions:**

"CONDITIONED SPACE. A space in a building that is either directly conditioned or indirectly conditioned" definitions are ambiguous. The definition of "directly conditioned" and "indirectly conditioned" are missing, so the definition for "conditioned space", which relies on these other terms is inadequate. Definitions for directly conditioned and indirectly conditioned are provided in the 2007 Energy Code. (Criterion 6)

RESPONSE: CBSC is not accepting the commenters' proposed changes, because the definition is consistent with Part 6. Also, §201.3 notifies the code user that there are many terms in other parts of Title

24 and other referenced documents that are defined therein. Space precludes defining them all in this chapter.

COMMENTERS: Dan Geiger and Andrea Traber, United States Green Building Council; Paul Poirier, AIA, LEED AP, Poirier + David Architects, et al; and Jim Metropulos, Sierra Club, on **Sections 401—406:**

The limited information contained in this Chapter is not sufficient to achieve the overall stated goals outlined in 401.1 Purpose. Make this Chapter more inclusive with additional information relative to Building Orientation, Brownfield Development, Site Densities, Light Pollution, Public Transportation Access, and Minimizing Paved Parking Areas. (Criteria 3 and 6)

RESPONSE: CBSC is not accepting the commenters' proposed changes, because, while CBSC agrees that the site planning proposals it withdrew have merit in reducing greenhouse gas emissions, the proposals are viewed by some as within the authority of local jurisdictions and conflict with state and federal law. Thus, the Green Building Code Advisory Committee (GB CAC) recommended moving those not withdrawn by CBSC to an appendix chapter. CBSC will consider them for the next rulemaking cycle with an eye to establishing a balance between statewide and local authorities on these issues.

COMMENTERS: Dan Geiger and Andrea Traber, United States Green Building Council and Paul Poirier, AIA, LEED AP, Poirier + David Architects, et al, on **Chapter 5:**

Add verbiage clarifying that the designer has the option to design his building based on either the Performance or the Prescriptive Approach. (Criteria 5 and 6)

RESPONSE: CBSC is not accepting the commenters' proposed changes, because the prescriptive standards presented in this framework proposal are not equivalent to the performance standards. CBSC, the California Energy Commission and other stakeholders will be developing these standards further in the next rulemaking cycle.

COMMENTERS: Dan Geiger and Andrea Traber, United States Green Building Council and Paul Poirier, AIA, LEED AP, Poirier + David Architects, et al, on **Section 502.1, definition of "Energy Star":**

Revise the definition of Energy Star to match the Energy Star website.

RESPONSE: CBSC is ~~accommodating-accepting~~ the comment ~~by-and~~ revising the definition to align with that on ENERGY STAR's website, and submitted the change in a 15-day comment period. CBSC received no comments on the revision.

COMMENTERS: Dan Geiger and Andrea Traber, United States Green Building Council; Paul Poirier, AIA, LEED AP, Poirier + David Architects, et al; and Randall Higa, Southern California Edison, on **Section 502.1, definition of "Time Dependent Valuation (TDV) Energy":**

USGBC and Mr. Poirier request a sentence at the beginning of the definition: "TDV refers to the fact that saving peak power is more important than non-peak power because it is more expensive to produce and more polluting to create."

Mr. Higa requests a change to the word "energy" to the words "energy cost".

RESPONSE: CBSC is accepting the proposed changes from by Mr. Higa and, therefore, not accepting the proposed changes by USGBC and Mr. Poirier. This change achieves the goal of the commenters, that TDV energy recognizes that peak energy is more expensive and more polluting to produce. The change was submitted in a 15-day comment period, and CBSC received no comments on the revision.

COMMENTER: Bart Croes, P.E., California Air Resources Board (ARB), on **Section 503.1:**

Mr. Croes recommends that the proposal to exceed the 2007 California Energy Code by 15% be mandatory, not optional.

RESPONSE: CBSC is not accepting the commenter's proposed change, because the standards as currently proposed are voluntary. CBSC, the California Energy Commission, ARB, and other stakeholders will be developing these standards further in the next rulemaking cycle.

COMMENTERS: Dan Geiger and Andrea Traber, United States Green Building Council and Paul Poirier, AIA, LEED AP, Poirier + David Architects, et al, on **Section 504:**

Add additional requirements in the prescriptive approach including upgraded window performance (including thermal breaks in metal window mullions) and upgraded insulation.

RESPONSE: CBSC is not accepting the commenters' proposed changes, because the changes, while they have merit, are beyond the scope of this rulemaking. CBSC, the California Energy Commission and other stakeholders will be developing these standards further in the next rulemaking cycle.

COMMENTER: Bart Croes, P.E., ~~California Air Resources Board (ARB)~~ and Erik S. Emblem, SMACNA, on **Section 504.4:**

Mr. Croes requested that materials and systems that affect indoor quality (IAQ) be included in building commissioning, at least a checklist of these items. Mr. Emblem commented in support of the commissioning provisions.

RESPONSE: CBSC accepts SMACNA's comment noting no change is necessary. CBSC is not accepting Mr. Croes' proposed changes, because the changes are beyond the scope of this rulemaking. CBSC, the California Energy Commission, ARB, and other stakeholders will review these standards in the next rulemaking cycle. Since CBSC will be considering mandatory measures, it does not agree with the suggestion of a checklist.

COMMENTERS: Dan Geiger and Andrea Traber, United States Green Building Council and Paul Poirier, AIA, LEED AP, Poirier + David Architects, et al, **new section for Chapter 5:**

Add a new Section 505, Mandatory requirements, for all buildings, consisting of items listed in the prescriptive approach: energy monitoring, demand response controls, and commissioning. These would increase the benefit to the environment for both the performance and prescriptive approaches.

RESPONSE: CBSC is not accepting the commenters' proposed changes, because CBSC will be proposing mandatory provisions in the next rulemaking cycle and will solicit stakeholder input as part of the process.

COMMENTERS: Dan Geiger and Andrea Traber, United States Green Building Council; Paul Poirier, AIA, LEED AP, Poirier + David Architects, et al; Randall Higa, Southern California Edison; and Bart Croes, ARB, on **Section 511.1:**

USGBC and Mr. Poirier request an increase from 1% to 5% of calculated power.

Mr. Croes requests that residential and non-residential buildings be pre-wired for future photovoltaic installation.

Mr. Higa requests including 1% of natural gas and propane as well as electric services, because all energy services need to be taken into consideration when calculating the renewable energy requirements.

RESPONSE: CBSC is accepting Mr. Higa's comment as sufficiently related, and proposed the changes in a 15-day comment period. The change will result in larger renewable energy requirements requested by USGBC and the others. CBSC received no comments on the revision.

CBSC is not accepting the proposed changes from USGBC, Mr. Poirier, and Mr. Croes, because the changes, while they have merit, are beyond the scope of this rulemaking. CBSC, the California Energy Commission and other stakeholders will be developing the energy efficiency standards further in the next rulemaking cycle.

COMMENTERS: Dan Geiger and Andrea Traber, United States Green Building Council and Paul Poirier, AIA, LEED AP, Poirier + David Architects, et al, on **Section 512.1:**

Revise to read: "In order to reduce electrical demands, in buildings with two or more elevators provide controls to temporarily disable one or more elevators for part of the day. For buildings with three or more escalators, shut off or reduce the speed of escalators when no traffic is detected. Document the controls in the project specifications and commissioning plan." (Criteria 5 and 6)

RESPONSE: CBSC is not accepting the commenters' proposed changes, because the changes, while they may have merit, are beyond the scope of this rulemaking. CBSC, the California Energy Commission and other stakeholders will be developing the energy efficiency standards further in the next rulemaking cycle.

COMMENTER: Bart Croes, P.E., California Air Resources Board (ARB), on **Sections 603.1, 603.2, and 603.3:**
The proposed provisions for meters, 20% water savings, and efficient appliances should be mandatory, not optional.

RESPONSE: CBSC is not accepting the commenters's proposed changes, because CBSC will be proposing mandatory provisions in the next rulemaking cycle and will solicit stakeholder input as part of the process. CBSC believes adequate time is not available during this rulemaking to obtain public input properly and establish the benefit and necessity of this proposal and allow for adequate public participation including designers, builders, stakeholders and the GB CAC because CBSC will be proposing mandatory provisions in the next rulemaking cycle and will solicit stakeholder input as part of the process.

COMMENTER: Shawn Martin, Plumbing Manufacturers Institute, on **Table 603.2:**

Mr. Martin suggests that the water reduction options proposed be limited to the 20% performance option and the prescriptive option be eliminated. He further suggests that:

- Flow rates used in Table 603.2 refer to flow rates for shower heads, lavatory faucets, metered faucets, and urinals already developed, or currently being developed, by the United States Environmental Protection Agency (EPA) in their WaterSense program;
- That kitchen faucets be excluded from the list of fixtures required to reduce water consumption; and
- He expresses concern that, at flow rates reduced below the current maximum flow rate of 2.5 gpm, shower valves with required temperature compensating features may not function properly. He requests a delay until specifications are developed by the EPA WaterSense program.

RESPONSE: These comments were also received during the GB CAC hearings. During initial development and at the GB CAC hearings, CBSC also received supportive comments which encouraged

both a prescriptive and performance approach to achieving a 20% reduction in interior water use. Generally, most comments preferred the flexibility and choice. At this time, CBSC is not accepting the commenter's proposed changes, because the changes, while they have merit, are beyond the scope of this rulemaking. CBSC, HCD, DSA, the Department of Water Resources, the California Energy Commission and other stakeholders will be developing the water efficiency standards further in the next rulemaking cycle, by which time the WaterSense program may be fully developed.

COMMENTER: Shawn Martin, Plumbing Manufacturers Institute, on **Table 603.2:**

Mr. Martin proposes to delay the use of High-Efficiency 1.28 gallon flush toilets until January 1, 2014. He expresses concern that adequate supply and acceptable performance of these toilets may not be available until January 1, 2014.

RESPONSE: CBSC is not accepting the commenter's proposed change, because the standards as currently proposed are voluntary. CBSC will be proposing mandatory provisions in the next rulemaking cycle and will solicit stakeholder input as part of the process, including review of complying product availability.

COMMENTER: Daun Langston, Engineer, on **Section 603.3, Item 3:**

During the 15-day public comment period, Mr. Langston recommended that all refrigerated appliances be air cooled or cooled with closed loop coolant systems. Use of a single pass of potable water for cooling shall be prohibited.

RESPONSE: CBSC is not accepting the commenter's proposal, because this section was not proposed for change during the 15-day public comment period and is beyond the scope of this rulemaking. CBSC, the Department of Water Resources, the California Energy Commission and other stakeholders will be developing the energy efficiency standards further in the next rulemaking cycle.

COMMENTERS: Dan Geiger and Andrea Traber, United States Green Building Council and Paul Poirier, AIA, LEED AP, Poirier + David Architects, et al, on **Table 603.2:**

This table should be modified to include dual flush toilets which have a maximum of 1.6 gpf for solids, and a maximum of 0.9 gpf for liquids. Also, blowout water closets should be excluded from the table, and continue to be an exception to the water use standards of the code for sanitary reasons.

RESPONSE: CBSC is accommodating the comment by revising the footnotes to include a reference to effective flush rate, a footnote already shown for Table WS-2. CBSC is further accommodating the comment by withdrawing for further study its provisions for Blowout Water Closets. These changes were submitted in a 15-day comment period, and CBSC received no comments on the revisions. CBSC and other stakeholders will review the need for Blowout Water Closet standards in the next rulemaking cycle.

COMMENTER: Daun Langston, Engineer, on **Section 603.3, Item 3:**

During the 15-day public comment period, Mr. Langston recommended that all refrigerated appliances be air cooled or cooled with closed loop coolant systems and that use of a single pass of potable water for cooling be prohibited.

RESPONSE: CBSC is not accepting the commenter's proposal, because this section was not proposed for change during the 15-day public comment period and is beyond the scope of this rulemaking. CBSC, the Department of Water Resources, the California Energy Commission and other stakeholders will be developing the water efficiency standards further in the next rulemaking cycle.

COMMENTERS: Dan Geiger and Andrea Traber, United States Green Building Council and Paul Poirier, AIA, LEED AP, Poirier + David Architects, et al, on **Section 701.1:**

Add: "and use of materials that reduce the off-site impacts of harvesting, manufacturing, and transport of materials, such as habitat destruction, off-site air and water pollution, and deforestation." These important environmental considerations should be added to the scope of this section.

RESPONSE: CBSC is not accepting the commenters' proposed changes, because the changes, while they have merit, are beyond the scope of this rulemaking. CBSC and other stakeholders will be developing these standards further in the next rulemaking cycle. CBSC believes adequate time is not available during this rulemaking to obtain public input properly and establish the benefit and necessity of this proposal and allow for adequate public participation including designers, builders, stakeholders and the GB CAC.

COMMENTER: William Schock, CALBO, on **Section 705:**

Mr. Schock requested that Section 705 be moved to the appendix chapter. (Criteria 1 through 8)

RESPONSE: CBSC is not accepting the commenter's proposed change, because the standards as currently proposed are voluntary. CBSC will be proposing mandatory provisions in the next rulemaking cycle and will solicit stakeholder input as part of the process.

COMMENTERS: Dan Geiger and Andrea Traber, United States Green Building Council; Paul Poirier, AIA, LEED AP, Poirier + David Architects, et al; Gary Hambly, California Construction and Industrial Materials Association; and Tom Tietz, California Nevada Cement Association, on **Section 705.1:**

Mr. Hambly and Mr. Tietz comment in support of regional materials to limit the state's carbon footprint.

USGBC and Mr. Poirier request CBSC delete “net projected energy savings” in Item #4, because there is no standard baseline and no standard means of calculating these savings.

RESPONSE: CBSC accepts the support comment noting no change is necessary. CBSC is not accepting the commenters’ proposal to amend, because the change, while it may have merit, is beyond the scope of this rulemaking. ~~CBSC and other stakeholders~~ will be developing these standards further in the next rulemaking cycle. CBSC believes adequate time is not available during this rulemaking to obtain public input properly and establish the benefit and necessity of this proposal and allow for adequate public participation including designers, builders, stakeholders and the GB CAC.

COMMENTERS: Dan Geiger and Andrea Traber, United States Green Building Council; Paul Poirier, AIA, LEED AP, Poirier + David Architects, et al; Keith William Martin, Structural Engineer; Joshua Buswell-Charkow, Organization ForestEthics; Kim Delfino, Defenders of Wildlife; Maraian Keeler, Simon & Associates; William Buchholz, AIA, CCS, LEED AP, Redwood City Cool Cities; James Feichtl, Individual; Jim Metropulos, Sierra Club; John “Jay” Marlette, Individual on **Section 705.2:**

The term “bio-based materials” is one used by the forest products industry, and there is no consensus on its meaning in the sustainable design community. Wikipedia simply defines a bio-based material as an engineered material made from substances derived from living matter. Being a “bio-based” or “renewable” product has no bearing on whether it is “environmentally responsible” or “sustainable.”

Mr. Marlette requested CBSC strikeout “Solid Wood”, because solid wood is not a sustainable material.

RESPONSE: CBSC is not accepting the commenters’ proposed changes, because the CBSC provisions offer alternative choices from which to choose available building products. CBSC recognizes the divide between the environmental and wood products communities on this issue, and will solicit stakeholder input in the development of wood- and plant-based standards in the next rulemaking cycle, during which standards will be considered for mandate.

COMMENTER: Structural Engineers Association of California (SEAOC), c/o James Lai, on **Sections 704.1 and 705.5:**

To reduce framing requirements in the 2007 California Building Code, Chapter 23, as indicated in Section 704.1, in on-site construction will result in damage and future loss of function for the buildings so constructed, thereby invalidating any perceived saving that these provisions intend. The engineers made many technical suggestions to this proposal, including efficient use of lumber in concrete formwork for Section 705.5.

RESPONSE: CBSC is not accepting the commenters’ proposed changes, because the changes, while they may have merit, are beyond the scope of this rulemaking, requesting many substantive changes. CBSC and other stakeholders will review the comments and these standards in the next rulemaking cycle. Additionally, the section makes it clear that framing techniques utilized cannot reduce the structural safety of the structure below Title 24 standards.

COMMENTERS: Dan Geiger and Andrea Traber, United States Green Building Council; Paul Poirier, AIA, LEED AP, Poirier + David Architects, et al; Keith William Martin, Structural Engineer; Joshua Buswell-Charkow, Organization ForestEthics; Kim Delfino, Defenders of Wildlife; Maraian Keeler, Simon & Associates; Dan Harrington, EcoTimber, Inc.; William Buchholz, AIA, CCS, LEED AP, Redwood City Cool Cities; James Feichtl, Individual; Robert W. Moncrieff, M.D.; Blake Ridgeway, Individual; Jim Metropulos, Sierra Club; John “Jay” Marlette, Individual; Mark Pawlicki, Sierra Pacific Industries; Gary C. Ryneearson, Green Diamond Resource Company; Brian White, California Forestry Association on **Section 705.2.1:**

Mr. Pawlicki, Mr. Ryneearson, and Mr. White support this proposed provision, because it makes an array of products available for the building industry, noting that 80% of wood products are imported into California. They also remarked that the latest editions of the certification standards, not specific versions, should be referenced.

The balance of the commenters requested that only the Forest Stewardship Council (FSC) be recognized in the standards. Only FSC certification assures that the forest from which the wood was harvested is managed in an environmentally, economically and socially responsible manner, and maintains chain-of-custody certification throughout the manufacturing, distribution and final delivery of products. The availability of FSC-certified products is as good or better in California than it is in any other state in the nation. The contention that recognizing only FSC harms California jobs, places an undue burden on industry, or forces people to buy non-California wood is simply false.

RESPONSE: While it appreciates the statement of support, CBSC is not accepting the first set of proposed changes, because regulations require that a specific edition of a reference be cited to prevent the continuous regulation of building projects without adequate public notice. State agencies review editions of referenced standards and propose their adoption in a rulemaking process, soliciting stakeholder input and public comment as required by law.

CBSC is not accepting the second set of comments, because the CBSC provisions offer alternative choices from which to choose building products. CBSC recognizes the divide between the environmental and wood

products communities on this issue, and will solicit stakeholder input in the development of wood- and plant-based standards in the next rulemaking cycle, during which standards will be considered for mandate.

COMMENTERS: Dan Geiger & Andrea Traber, United States Green Building Council; Paul Poirier, AIA, LEED AP, Poirier + David Architects, et al; Gary Hambly, California Construction & Industrial Materials Association; and Tom Tietz, California Nevada Cement Association, on **Section 705.4:**

After “equivalent in performance” add the phrase “and equal to or less than in toxicity”. Mr. Hambly and Mr. Tietz recommended that standards that include safeguards regarding quality, such as meeting ASTM C-33 requirements. Recycled content materials should not contain higher levels of toxicity than materials they are replacing.

RESPONSE: CBSC is not accepting the commenters’ proposed change, because it is unnecessary. §101.2 describes the purpose of the code to improve public health, safety, and general welfare. Further, alternate materials as referenced in §104.11 of Appendix Chapter 1 of the 2007 CBC require at a minimum equivalency for safety, among other things.

COMMENTERS: Dan Geiger & Andrea Traber, United States Green Building Council; Paul Poirier, AIA, LEED AP, Poirier + David Architects, et al; Gary Hambly, California Construction & Industrial Materials Association; and Tom Tietz, California Nevada Cement Association, on **Sections 705.5.3.1 and 705.5.3.2:**

Mr. Hambly and Mr. Tietz made several technical recommendations to these cement and concrete sections, and the balance of the commenters requested that CBSC make clear that the intent of the cement additives is to reduce the amount of Portland cement used in the manufacture of cement.

RESPONSE: CBSC is not accepting the commenters’ proposed changes, because the changes, while they have merit, are beyond the scope of this rulemaking. CBSC and other stakeholders, including members of the Governor’s Climate Action Team, will be developing the cement and concrete standards further in the next rulemaking cycle.

COMMENTERS: Dan Geiger & Andrea Traber, United States Green Building Council; Paul Poirier, AIA, LEED AP, Poirier + David Architects, et al; and Bart Croes, P.E., California Air Resources Boards (ARB) on **Section 708.3:**

Recommend construction waste reduction of at least 75%. Mr. Croes argues-suggests that the 50% reduction rate be mandatory. The others comment that California law already requires local governments to achieve a 50% solid waste diversion rate, and, therefore, 50% is too low a bar to qualify as a green building practice.

RESPONSE: CBSC is not accepting the commenters’ proposed changes, because the changes are beyond the scope of this rulemaking. USGBC’s comment states that the provision for 50% construction waste diversion is mandated, but it refers to 50% of all solid waste. ARB’s observation is that 50% construction waste diversion is readily achievable. However, the Green Building Code Advisory Committee GB CAC recommended against a tiered approach to standards, advising instead requiring “at least” or “a minimum of” a single value. CBSC, the California Integrated Waste Management Board, and other stakeholders will review these standards in the next rulemaking cycle.

COMMENTER: William Schock, CALBO, on **Section 709:**

Mr. Schock requested that this section be moved to the appendix chapter. (Criteria 1 through 8)

RESPONSE: CBSC is not accepting the commenter’s proposed change, because the standards as currently proposed are voluntary. CBSC will be proposing mandatory provisions in the next rulemaking cycle and will solicit stakeholder input as part of the process.

COMMENTERS: S. E. Gebelein, Miyamoto International; Gary Hambly, California Construction & Industrial Materials Association, and Tom Tietz, California Nevada Cement Association, on **Section 709:**

Mr. Gebelein suggested life cycle assessment (LCA) ~~LCA~~ of structural framing and materials assemblies include damage due to probable natural hazard events. Mr. Hambly and Mr. Tietz proposed substantive alternate language for LCA life-cycle assessment (LCA) ~~LCA~~ drafted by Martha VanGeem of the CTL Group.

RESPONSE: CBSC is not accepting the commenters’ proposed changes, because the changes, while they may have merit, are beyond the scope of this rulemaking. Recognizing that life cycle assessment is a developing protocol, CBSC and other stakeholders will review these standards in the next rulemaking cycle.

COMMENTERS: William Buchholz, AIA, CCS, LEED AP, Redwood City Cool Cities; Joshua Buswell-Charkow, Organization ForestEthics; James Feichtl, Individual; Keith William Martin, Structural Engineer; Kim Delfino, Defenders of Wildlife and Maraian Keeler, Simon & Associates, on **Section 709.1:**

The commenters request further study, stating that until there is better science and a consensus on what parameters to use in a LCA, this section is meaningless and should be removed at this time.

RESPONSE: CBSC is not accepting the commenters’ proposed changes, because the Green Building Code Advisory Committee approved these provisions. Recognizing that life cycle assessment is a developing protocol, CBSC and other stakeholders will review these standards in the next rulemaking cycle.

COMMENTER: John “Jay” Marlette, individual, on **Section 710.1:**

Mr. Marlette recommends composting be considered in this regulation for recycling by building occupants.

RESPONSE: CBSC is not accepting the commenter's proposed change, because the change, while it may have merit, is beyond the scope of this rulemaking. CBSC, the California Integrated Waste Management Board, and other stakeholders will review these standards in the next rulemaking cycle.

COMMENTER: William Schock, CALBO, on **Section 710.1.1:**

Mr. Schock requested that this section be moved to the appendix chapter. (Criteria 1 through 8)

RESPONSE: CBSC is not accepting the commenter's proposed change, because the provision currently is in statute, although the sample ordinance referenced is located in an appendix to the law cited. CBSC, the California Integrated Waste Management Board, and other stakeholders will review these standards in the next rulemaking cycle.

COMMENTER: Bart Croes, P.E., California Air Resources Boards (ARB), on **Section 802.1:**

Provide references to Title 17 for ARB's definitions in the proposed definition for volatile organic compounds (VOCs).

RESPONSE: CBSC is accommodating-accepting a portion of the comment and is proposing to amend the definition to reference Title 17. The reference is editorial and does have regulatory effect. CBSC does not use the terms Low Vapor Pressure-VOC and Reactive Organic Compound in its proposed text and is not proposing to include a definition of those terms. This change was submitted in a 15-day comment period, and CBSC received no comments on the revision.

COMMENTER: Bart Croes, P.E., California Air Resources Boards (ARB), on **Section 803.1:**

We suggest excluding wood burning heating appliances unless propane or natural gas are not available, because they are less efficient than gas appliances and contribute to indoor and outdoor air pollution.

RESPONSE: CBSC is not accepting the commenter's' proposed changes, because the change, while it has merit, is beyond the scope of this rulemaking. CBSC, the California Energy Commission, ARB, and other stakeholders will review these standards in the next rulemaking cycle.

COMMENTER: Erik S. Emblem, SMACNA, on **Section 804.1:**

We recommend that the Commission reference the SMACNA ANSI Standard “Indoor Air Quality for Occupied buildings Under Construction” April 2003. This document has been accepted throughout the United States and around the world as the reference standard for IAQ during construction.

RESPONSE: CBSC is not accepting the commenter's' proposed changes, because the change, while it may have merit, is beyond the scope of this rulemaking. CBSC, ARB, SMACNA and other stakeholders will review these standards in the next rulemaking cycle, when CBSC should have an opportunity to review the recommended reference document.

COMMENTER: Bart Croes, P.E., California Air Resources Boards (ARB), on **Section 804.1.3, Item 5:**

Duct manufacturing oil residue should be removed while duct work is still disassembled and easily accessible, to prevent the growth of mold and bacteria on the duct interior surface. We suggest using language from the 2006 CHPS Best Practices Manual.

RESPONSE: CBSC is not accepting the commenters's proposed changes, because the changes, while they have merit, are beyond the scope of this rulemaking. CBSC will be proposing mandatory provisions in the next rulemaking cycle and solicit stakeholder input, including that of ARB and DSA—SS, as part of the process.

COMMENTER: Bart Croes, P.E., California Air Resources Boards (ARB), on **Section 804.2:**

We suggest using language from the 2006 CHPS Best Practices Manual for building flush-out. Because the provisions proposed do not specify a time frame over which building flush-out should occur, the air flow rate could be so low as to achieve very little air mixing and, hence, much less effective pollutant removal.

RESPONSE: CBSC is accommodating-accepting the comment—T, because the amendment is sufficiently related to the original proposal that was brought to the Green Building Code Advisory CommitteeGB CAC. The committee had only recommended that the section be amended to include a testing protocol. ARB advised against this, because air quality testing is costly, and a building flush-out should eliminate the need for almost all testing. These changes were submitted in a 15-day comment period, and CBSC received no comments on the revisions.

COMMENTER: Erik S. Emblem, SMACNA, on **Section 804.2:**

We recommend that using the building HVAC systems for building flush-out be prohibited, because such systems are not designed for this use, and it may lead to their inefficient performance.

RESPONSE: CBSC is not accepting the commenter's proposed changes, because the provision proposed for amendment does offer an alternative of ventilation with maximum outside air. This comment was made to the ~~Green Building Code Advisory Committee~~ GB CAC and was not accepted outright by the committee as a recommendation. CBSC has learned that it is common practice to use air handling equipment to flush-out a building post-construction, but it will review these standards with stakeholders, including SMACNA, in the next rulemaking cycle.

COMMENTER: Bart Croes, P.E., ~~California Air Resources Boards (ARB)~~, on **Section 804.3:**

We recommend that this section be adopted by both CBSC and HCD and be amended to require sealing of air conditioning components during transport and storage to keep them clean.

RESPONSE: CBSC did not propose to adopt this provision, but CBSC, ARB, and other stakeholders will review these standards and the comment in the next rulemaking cycle.

COMMENTER: Bart Croes, P.E., ~~California Air Resources Boards (ARB)~~, on **Section 804.4:**

We recommend that finish material pollutant control provisions be mandatory, not optional, because they incorporate existing state regulations and because low-emission materials are widely available.

RESPONSE: CBSC is not accepting the commenter's proposed change, because the change, while it may have merit, is beyond the scope of this rulemaking. CBSC will be proposing mandatory provisions in the next rulemaking cycle and solicit stakeholder input, including that of ARB, as part of the process.

COMMENTER: Bart Croes, P.E., ~~California Air Resources Boards (ARB)~~, on **Section 804.4.1:**

Mr. Croes suggests that both HCD and CBSC extensively modify language that is currently proposed to include references to portions of regulations adopted by the California Air Resources Board, and delete Table 804.4.1. The comment also states that Section 804.4.1 lists sealants as a regulated item but Table 804.4.1 does not include any VOC limits for sealants. Make reference to South Coast Air Quality Management District (SCAQMD) Rule 1168 for adhesives and sealants, and delete Table 804.4.1.

RESPONSE: CBSC is accommodating-accepting part of the comment and proposing to omit references to sealants, which are not covered in Table 804.4.1. These changes were submitted in a 15-day comment period, and CBSC received no comments on the revisions.

CBSC is also adding footnotes to Tables 804.4.1 and 804.4.2 to refer code users to South Coast Air Quality Management District rules from which the tables are derived. These additions are editorial and have no regulatory effect; they simply point the code user to information needed to measure the VOC content specified in the tables. CBSC did not submit these changes in a 15-day comment period.

CBSC is not accepting the rest of the commenter's proposed changes, because the changes is-are beyond the scope of this rulemaking. CBSC, ARB, and other stakeholders will review these standards in the next rulemaking cycle. ~~[-Check with HCD].~~

COMMENTER: Bart Croes, P.E., ~~California Air Resources Boards (ARB)~~, on **Section 804.4.2 and Table 804.4.2:**

We recommend that Table 804.4.2 be replaced with Table 1 of ARB's Architectural Coatings Suggested Control Measure. While the values in some cases are not as stringent as SCAQMD's Rule 1113, they have statewide application.

RESPONSE: CBSC is not accepting the commenter's proposed changes, because the changes, while they have merit, are beyond the scope of this rulemaking. CBSC, ARB, and other stakeholders will review these standards in the next rulemaking cycle.

COMMENTERS: Dan Geiger & Andrea Traber, United States Green Building Council and Paul Poirier, AIA, LEED AP, Poirier + David Architects, et al on **Section 804.4.2:**

Table 804.4.2 - This table should only have one column for effective date, omit one column.

RESPONSE: CBSC is not accepting the commenters' proposed changes, because it wishes to maintain a column for future effective dates for VOC limits. The multiple columns also provide historical information on the changes to VOC limits in California.

COMMENTER: Bart Croes, P.E., ~~California Air Resources Boards (ARB)~~, on **Section 804.4.3.2:**

ARB pointed out that the reference to Section 804.1.1 was not correct and that a typographical error also appeared in this section.

RESPONSE: CBSC is accepting the comment and making the changes, which are editorial and do not have regulatory effect. CBSC submitted the changes in a 15-day comment period and received no comments on the revisions.

COMMENTER: Bart Croes, P.E., ARB ~~accepting the comment, which is editorial and does not have regulatory effect. These changes were submitted in a 15-day comment period, and CBSC received no comments on the revisions.~~

COMMENTER: ~~Bart Croes, P.E., California Air Resources Boards (ARB),~~ on **Section 804.4.4** and **Table 804.4.4:**

Include a reference to ARB Airborne Toxic Control Measure (ATCM) recently approved by the Office of Administrative Law in Title 17.

RESPONSE: CBSC is ~~accepting the comment.~~ The ATCM has been cited as a reference in a footnote to Table 804.4.4 to ensure the code user is aware that the maximum limits in Table 804.4.4 are consistent with the maximum values developed by the ARB and approved since this rulemaking began. The amendment merely provides clarity and is sufficiently related to the original proposal for the public to have been adequately noticed that the change might occur. This change was submitted in a 15-day comment period, and CBSC received no comments on the revisions.

COMMENTER: William Schock, CALBO, on **Section 804.4.4.1:**

Mr. Schock requested that this section be deleted in its entirety. (Criteria 1 through 8)

RESPONSE: CBSC is not accepting the commenter's proposed change, because currently the standards are voluntary. CBSC, ARB, and other stakeholders will review these standards in the next rulemaking cycle when CBSC will be proposing mandatory provisions for future editions of the code.

COMMENTER: Bart Croes, P.E., ~~California Air Resources Boards (ARB),~~ on **Section 804.4.4.1:**

Edit this section to read "...where complying product is readily available..." to minimize the chance of obtaining costly product with higher embodied energy from overseas.

RESPONSE: CBSC is ~~accepting the comment,~~ because the change is sufficiently related to the original proposal. This change was submitted in a 15-day comment period, and CBSC received no comments on the revisions.

COMMENTER: Bart Croes, P.E., ~~California Air Resources Boards (ARB),~~ on **Section 804.4.4.2:**

We recommend deleting this provision, because it could put agrifiber products at a competitive disadvantage. Agrifiber products are included under our ATCM if they meet the definition of hardwood plywood, particleboard or medium density fiberboard.

RESPONSE: CBSC is ~~accepting the comment by deleting this section to~~ ensure consistency with ARB's regulations. This change was submitted in a 15-day comment period, and CBSC received no comments on the revisions. CBSC also is removing the definition for AGRIFIBER PRODUCTS in §802.1 for consistency with the above change. The removal is thus not regulatory and was not submitted for 15-day comments.

COMMENTER: Bart Croes, P.E., ~~California Air Resources Boards (ARB),~~ on **Section 804.4.4.3:**

We recommend deleting this provision, because VOC limitations for composite wood products are accounted for in the limitation the entire product must meet, and it is not necessary to include a specific limit for only one part of the composite product.

RESPONSE: CBSC is ~~accepting the comment by deleting this section to~~ ensure consistency with ARB's regulations. This change was submitted in a 15-day comment period, and CBSC received no comments on the revisions.

COMMENTER: Bart Croes, P.E., ~~California Air Resources Boards (ARB),~~ on **Section 804.4.4.4:**

We suggest minor editorial revisions to this section on documentation of compliance.

RESPONSE: CBSC is ~~accepting the comment,~~ because the changes suggested by ARB are editorial and do not have regulatory effect. This change was submitted in a 15-day comment period, and CBSC received no comments on the revisions.

COMMENTER: William Schock, CALBO, on **Section 804.5.1, Item 3:**

Mr. Schock requested that this item be deleted in its entirety. (Criteria 1 through 7)

RESPONSE: CBSC is not accepting the commenter's proposed change, because the standard proposed offers an economic alternative to permanently installed systems. It can be verified as indicated in the proposal, and it appears to be verifiable by enforcement authorities. CBSC, CDPH, and other stakeholders will review these standards in the next rulemaking cycle.

COMMENTER: Bart Croes, P.E., ~~California Air Resources Boards (ARB),~~ on **Section 804.6.2:**

We recommend removing "optionally" from the wording in this section on ozone-depleting chemicals, and removing the Exception for small equipment.

RESPONSE: CBSC is not accepting the commenter's proposed changes, because currently the standards that are not already in statute or regulation are voluntary. CBSC, ARB, and other stakeholders will review

these standards in the next rulemaking cycle when CBSC will be proposing mandatory provisions for future editions of the code.

COMMENTER: William Schock, CALBO, on **Section 804.7:**

Mr. Schock requested that this section be deleted in its entirety. (Criteria 1 through 7)

RESPONSE: CBSC is not accepting the commenter's proposed change, because the standard proposed for disapproval is more stringent than California law, thus "greener", and it recognizes the authority of local jurisdictions and educational institutions to adopt stricter regulations.

COMMENTER: Jed Waldman, California Department of Public Health (CDPH), IAQ Program, on **Section 805:**

Add subsection(s) that provide for verification of compliance with mold and moisture management requirements during all phases of a building project. Reference *Greenguard GGBS MP.001, Mold and Moisture Management Standard for New Construction*, when approved.

RESPONSE: CBSC is not accepting the commenter's proposed changes, because the changes, while they may have merit, is-are beyond the scope of this rulemaking. Also, the construction standard to which the comment refers has not yet been approved as a national standard. CBSC, CDPH, and other stakeholders will review these standards in the next rulemaking cycle.

COMMENTER: Bart Croes, P.E., ~~California Air Resources Boards (ARB)~~, on **Section 806.1:**

We recommend adding a section for nonresidential buildings to require that natural ventilation "systems" be engineered for adequate ventilation.

RESPONSE: CBSC is not accepting the commenter's proposed changes, because the changes, while they may have merit, are beyond the scope of this rulemaking. CBSC, ARB, CDPH, the California Energy Commission and other stakeholders will review these standards in the next rulemaking cycle, by which time the new energy code provisions are expected to be approved.

COMMENTER: Bart Croes, P.E., ~~California Air Resources Boards (ARB)~~, on **Section 806.2:**

We recommend that you either delete this redundant section, or clarify the wording to be consistent with 2008 Title 24 Section 121(c) 3.

RESPONSE: CBSC is not accepting the commenter's proposed changes, because the changes, while they may have merit, are beyond the scope of this rulemaking. CBSC, ARB, CDPH, the California Energy Commission and other stakeholders will review these standards in the next rulemaking cycle, by which time the new energy code provisions are projected to be approved.

COMMENTER: William Schock, CALBO, on **Section 807:**

Mr. Schock requested that this section be moved to the appendix chapter. (Criteria 1 through 8)

RESPONSE: CBSC is not accepting the commenter's proposed changes, because the standards as currently proposed are voluntary. CBSC will be proposing mandatory provisions in the next rulemaking cycle and will solicit stakeholder input as part of the process.

COMMENTERS: Dan Geiger & Andrea Traber, United States Green Building Council and Paul Poirier, AIA, LEED AP, Poirier + David Architects, et al on **Section 807.1.2, Item 2:**

Request a change to "Occupants inside 20 feet of the plane of the wall and within 10 feet either side of operable windows can substitute windows to control thermal comfort."

RESPONSE: CBSC is accommodating-accepting the comment, because the comment clarifies for the code user the orientation of the subject occupants in relation to the window. This change was submitted in a 15-day comment period, and CBSC received no comments on the revision.

COMMENTER: Randall Higa, Southern California Edison, on **Section 807.3:**

Mr. Higa requests that the phrase "consider the following" be changed to "the following is required", because the proposed language cannot be enforced or adopted by local ordinance.

RESPONSE: CBSC is not accepting the commenter's proposed changes, because the standards as currently proposed are voluntary. CBSC will be proposing mandatory provisions in the next rulemaking cycle and will solicit stakeholder input as part of the process.

COMMENTER: Bart Croes, P.E., ~~California Air Resources Boards (ARB)~~, on **Section 807.5:**

We recommend including the 2006 CHPS prerequisite for classrooms to mitigate poor acoustical quality often experienced in classrooms.

RESPONSE: CBSC is not accepting the commenter's proposed changes, because the changes, while they may have merit, are beyond the scope of this rulemaking. CBSC, ARB, DSA and other stakeholders will review these standards in the next rulemaking cycle.

COMMENTERS: Erik S. Emblem, SMACNA and Scott Harriman, Senior Planner and Robert Woods, Chief Building Official, City of Walnut Creek on, on **Chapter 10:**

~~While not addressing specific proposals, the commenters from Walnut Creek expressed concern about how the code will be implemented and enforced since it is proposed to be voluntary.~~ Mr. Emblem urged care in drafting this reserved chapter for installer and third-party qualifications, supporting well-written and thought-out standards, in the next rulemaking cycle.

RESPONSE: CBSC is not accepting the commenters's proposed changes, because they are not directed at specific proposals, but CBSC appreciates the interest in participating. CBSC will be proposing mandatory provisions in the next rulemaking cycle and will solicit stakeholder input as part of the process.

COMMENTS: Bart Croes, P.E., ~~California Air Resources Boards (ARB),~~ on **Appendix A, Sections A402.1, definitions of low-emitting vehicles, A406.1.5 and Table A406.1.5.1:**

These sections should be included in the main body of the standards, because motor vehicle emissions are a major contributor to emissions of air pollutants and green house gases. "Low-emitting vehicles" should be clearly defined to coordinate with state and federal regulations. We also recommend changing the threshold value from 8% to least 10% of parking spaces.

RESPONSE: CBSC is not accepting the commenters' proposed changes, because the changes are beyond the scope of this rulemaking. CBSC's standards are currently proposed to be voluntary.

CBSC agrees with ARB that important greenhouse gas-reducing provisions originally proposed for Chapter 4 should be reviewed in the next rulemaking cycle with an eye to establishing a balance between among federal, statewide and local authorities.

Also, CBSC and ARB collaborated on the definition of "low emitting" vehicles in code development, and they will work together in the next rulemaking cycle to align further the language with the regulations cited.

Finally, the threshold percentage for preferred parking for low emitting and carpool vehicles will be reviewed in the next rulemaking cycle when CBSC will be proposing mandatory provisions for future editions of the code. If this becomes a mandatory provision, the percentage suggested by Mr. Croes may be too high.

DETERMINATION OF ALTERNATIVES CONSIDERED AND EFFECT ON PRIVATE PERSONS

The initial version of the green building standards proposed is primarily voluntary. Therefore, CBSC has determined that no alternative considered would be more effective in carrying out the purpose for which the regulation is proposed or would be as effective as and less burdensome to affected private persons than the adopted regulation. The alternative would be mandatory green building standards, which could have an effect.

REJECTED PROPOSED ALTERNATIVE THAT WOULD LESSEN THE ADVERSE ECONOMIC IMPACT ON SMALL BUSINESSES

There were no proposed alternatives that would lessen the impact on small businesses. Because it is proposing primarily voluntary green building measures, the CBSC has determined that the proposed regulations will have no adverse impact on small businesses.